

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of producing a magnetic disk for use in a magnetic disk apparatus of a load/ unload system, comprising:

forming at least a magnetic layer on a disk substrate, and

thereafter forming a carbon-based protection layer by plasma CVD using a mixed gas of a hydrocarbon-based gas and a nitrogen gas without containing an inactive gas under the condition that the disk substrate with the magnetic layer formed thereon is kept at a temperature higher than 200°C,

wherein a content of the nitrogen gas with respect to the hydrocarbon-based gas falls within a range between 0.5% and 6%,

wherein after forming the carbon-based protection layer, a surface of the magnetic disk is cleaned with ultra pure water and isopropyl alcohol.

2. (Original) A method according to claim 1, wherein:

the mixed gas is a mixture of a low-molecular-weight straight-chain hydrocarbon-based gas and a nitrogen gas.

3. (Original) A method according to claim 1, further comprising:

exposing the carbon-based protection layer to nitrogen plasma after forming the carbon-based protection layer.

4. (Original) A method according to claim 3, further comprising:

forming a lubrication layer after exposing the carbon-based protection layer to nitrogen plasma.

5. (Cancelled)

6. (Previously presented) A method according to claim 1, wherein:

B/A of Raman spectrum falls within a range of 1.2 to 1.5 in the carbon-based protection layer, B/A of the Raman spectrum being a ratio between a maximum peak intensity (B) of

Raman spectrum as measured and a maximum peak intensity (A) of Raman spectrum after removal of background due to photoluminescence.

7. (previously presented) A method according to claim 2, wherein:
the low-molecular-weight straight-chain hydrocarbon-based gas is acetylene.

8. (New) A method according to claim 1, wherein:
a part of hydrocarbons decomposed in plasma form chemically active carbon-nitrogen bond to form the carbon-based protection layer while the remaining part of the hydrogen carbons which are not decomposed or insufficiently decomposed in the plasma are incorporated to form the protection layer.

9. (New) A method according to claim 1, wherein:
a thickness of the carbon-based protection layer has not smaller than 1 nm and not greater than 5 nm.

10. (New) A method according to claim 1, wherein:
the disk substrate has a thickness between 0.1 mm and 1.5 mm.

11. (New) A method according to claim 1, wherein:
the surface of the magnetic disk has a surface roughness R_{max} of 6 nm or less.